BAYER

INSITUTE, WEST VIRGINIA

SITE

Permit R13-3111-B

Class II Administrative Update

Addition of Boiler 019

November 14, 2016
Linda K. Tennant
304.767.6161

TABLE OF CONTENTS

William F. Durham, Director
WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, West Virginia 25304

CERTIFIED MAIL
(Return Receipt Requested)
7015 1520 0000 8584 1854

November 11, 2016

Bayer
Institute Site
P.O. Box 1005
Institute, WV
25112-1005

Office 304.767.6123
Cell 304.741.3629
Fax 304.767.6294

Director Durham,

Attached is a New Source Review (NSR) Permit application for a Class II Administrative Update to Permit R13-3111-B. Enclosed is Check No. 3200279491 for $1300.00. This fee includes $1,000.00 for the New Source Performance Standards (NSPS) update and $300.00 for the Class II Administrative Update.

If you have any questions or need additional information, please contact Linda Tennant at 304.767.6161 or linda.tennant@bayer.com.

Sincerely,

Connie Stewart

Connie Stewart
Head of Institute Site

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

APPLICATION FOR NSR PERMIT AND TITLE V PERMIT REVISION (OPTIONAL)

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

☐ **CONSTRUCTION** ☐ **MODIFICATION** ☐ **RELOCATION**
☐ **CLASS I ADMINISTRATIVE UPDATE** ☐ **TEMPORARY**
☒ **CLASS II ADMINISTRATIVE UPDATE** ☐ **AFTER-THE-FACT**

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

☐ **ADMINISTRATIVE AMENDMENT** ☐ **MINOR MODIFICATION**
☐ **SIGNIFICANT MODIFICATION**

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant *(as registered with the WV Secretary of State's Office):*
Bayer CropScience LP

2. Federal Employer ID No. ***(FEIN):***
132887825

3. Name of facility *(if different from above):*
Institute Site

4. The applicant is the:
☐ **OWNER** ☐ **OPERATOR** ☒ **BOTH**

5A. Applicant's mailing address:
P.O. Box 1005
Institute, WV 25112

5B. Facility's present physical address:
WV Route 25
Institute, WV 25112

6. **West Virginia Business Registration.** Is the applicant a resident of the State of West Virginia? ☒ **YES** ☐ **NO**
- If **YES,** provide a copy of the **Certificate of Incorporation/Organization/Limited Partnership** (one page) including any name change amendments or other Business Registration Certificate as **Attachment A.**
- If **NO,** provide a copy of the **Certificate of Authority/Authority of L.L.C./Registration** (one page) including any name change amendments or other Business Certificate as **Attachment A.**

7. If applicant is a subsidiary corporation, please provide the name of parent corporation:

8. Does the applicant own, lease, have an option to buy or otherwise have control of the *proposed site?* ☒ **YES** ☐ **NO**
- If **YES,** please explain: Owns
- If **NO,** you are not eligible for a permit for this source.

9. Type of plant or facility (stationary source) to be **constructed, modified, relocated, administratively updated** or **temporarily permitted** (e.g., coal preparation plant, primary crusher, etc.): Chemical Manufacturing

10. North American Industry Classification System **(NAICS)** code for the facility:
325320

11A. DAQ Plant ID No. (for existing facilities only):
039–00007

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):
R30-03900007-2010

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

12A.

- For **Modifications, Administrative Updates** or **Temporary permits** at an existing facility, please provide directions to the *present location* of the facility from the nearest state road;
- For **Construction** or **Relocation permits,** please provide directions to the *proposed new site location* from the nearest state road. Include a **MAP** as **Attachment B.**

Institute exit of I-64, approximately ½ miles north on WV Route 25

12.B. New site address (if applicable):	12C. Nearest city or town:	12D. County:
Not Applicable	Institute	Kanawha
12.E. UTM Northing (KM): 4,248.3	12F. UTM Easting (KM): 432.0	12G. UTM Zone: 17

13. Briefly describe the proposed change(s) at the facility:
Addition of a106 mmBtu trailer mounted boiler.

14A. Provide the date of anticipated installation or change: 12/02/2016 – If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen: / /	14B. Date of anticipated Start-Up if a permit is granted: 12/15/2016

14C. Provide a **Schedule** of the planned **Installation** of/**Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved).

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
Hours Per Day 24 Days Per Week 7 Weeks Per Year52

16. Is demolition or physical renovation at an existing facility involved? ☐ **YES** ☐ **NO**

17. **Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18. **Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process *(if known).* A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance *(if known).* Provide this information as **Attachment D.**

Section II. Additional attachments and supporting documents.

19. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

20. Include a **Table of Contents** as the first page of your application package.

21. Provide a **Plot Plan,** e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to ***Plot Plan Guidance***) .
– Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F.**

23. Provide a **Process Description** as **Attachment G.**
– Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H.**

– For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I.**

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J.**

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K.**

28. Check all applicable **Emissions Unit Data Sheets** listed below:

☐ Bulk Liquid Transfer Operations	☐ Haul Road Emissions	☐ Quarry
☐ Chemical Processes	☐ Hot Mix Asphalt Plant	☐ Solid Materials Sizing, Handling and Storage Facilities
☐ Concrete Batch Plant	☐ Incinerator	
☐ Grey Iron and Steel Foundry	☒ Indirect Heat Exchanger	☐ Storage Tanks
☐ General Emission Unit, specify		

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L.**

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

☐ Absorption Systems	☐ Baghouse	☐ Flare
☐ Adsorption Systems	☐ Condenser	☐ Mechanical Collector
☐ Afterburner	☐ Electrostatic Precipitator	☐ Wet Collecting System

☐ Other Collectors, specify

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M.**

30. Provide all **Supporting Emissions Calculations** as **Attachment N,** or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O.**

➢ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and ***Example Legal Advertisement*** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?

☐ **YES** ☒ **NO**

➢ If **YES,** identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's ***"Precautionary Notice – Claims of Confidentiality"*** guidance found in the ***General Instructions*** as **Attachment Q.**

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

☒ Authority of Corporation or Other Business Entity	☐ Authority of Partnership
☐ Authority of Governmental Agency	☐ Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R.**

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned ☒ **Responsible Official** / ☒ **Authorized Representative,** hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE Connie Stewart *(Please use blue ink)* DATE: 11-11-16 *(Please use blue ink)*

35B. Printed name of signee: Connie Stewart		35C. Title: Head of Institute Site
35D. E-mail: connie.stewart@bayer.com	36E. Phone: 304.767.6123	36F. FAX: 304.767.6621
36A. Printed name of contact person (if different from above): Linda Tennant		36B. Title: Environmental Specialist
36C. E-mail: linda.tennant@bayer.com	36D. Phone: 304.767.6161	36E. FAX: 304.767.6621

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- ☒ Attachment A: Business Certificate
- ☒ Attachment B: Map(s)
- ☐ Attachment C: Installation and Start Up Schedule
- ☐ Attachment D: Regulatory Discussion
- ☒ Attachment E: Plot Plan
- ☒ Attachment F: Detailed Process Flow Diagram(s)
- ☒ Attachment G: Process Description
- ☐ Attachment H: Material Safety Data Sheets (MSDS)
- ☒ Attachment I: Emission Units Table
- ☒ Attachment J: Emission Points Data Summary Sheet
- ☐ Attachment K: Fugitive Emissions Data Summary Sheet
- ☒ Attachment L: Emissions Unit Data Sheet(s)
- ☐ Attachment M: Air Pollution Control Device Sheet(s)
- ☒ Attachment N: Supporting Emissions Calculations
- ☒ Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans
- ☒ Attachment P: Public Notice
- ☐ Attachment Q: Business Confidential Claims
- ☒ Attachment R: Authority Forms
- ☐ Attachment S: Title V Permit Revision Information
- ☒ Application Fee

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- ☐ *Forward 1 copy of the application to the Title V Permitting Group and:*
- ☐ *For Title V Administrative Amendments:*
  - ☐ *NSR permit writer should notify Title V permit writer of draft permit,*
- ☐ *For Title V Minor Modifications:*
  - ☐ *Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,*
  - ☐ *NSR permit writer should notify Title V permit writer of draft permit.*
- ☐ *For Title V Significant Modifications processed in parallel with NSR Permit revision:*
  - ☐ *NSR permit writer should notify a Title V permit writer of draft permit,*
  - ☐ *Public notice should reference both 45CSR13 and Title V permits,*
  - ☐ *EPA has 45 day review period of a draft permit.*

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

ATTACHMENT A

BUSINESS CERTIFICATE

WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION CERTIFICATE

ISSUED TO:
BAYER CROPSCIENCE LP
2 TW ALEXANDER DR
RESEARCH TRIANGLE PARK, NC 27709-0000

BUSINESS REGISTRATION ACCOUNT NUMBER: **1048-6631**

This certificate is issued on: 10/11/2011

This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code

The person or organization identified on this certificate is registered to conduct business in the State of West Virginia at the location above.

This certificate is not transferrable and must be displayed at the location for which issued.

This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

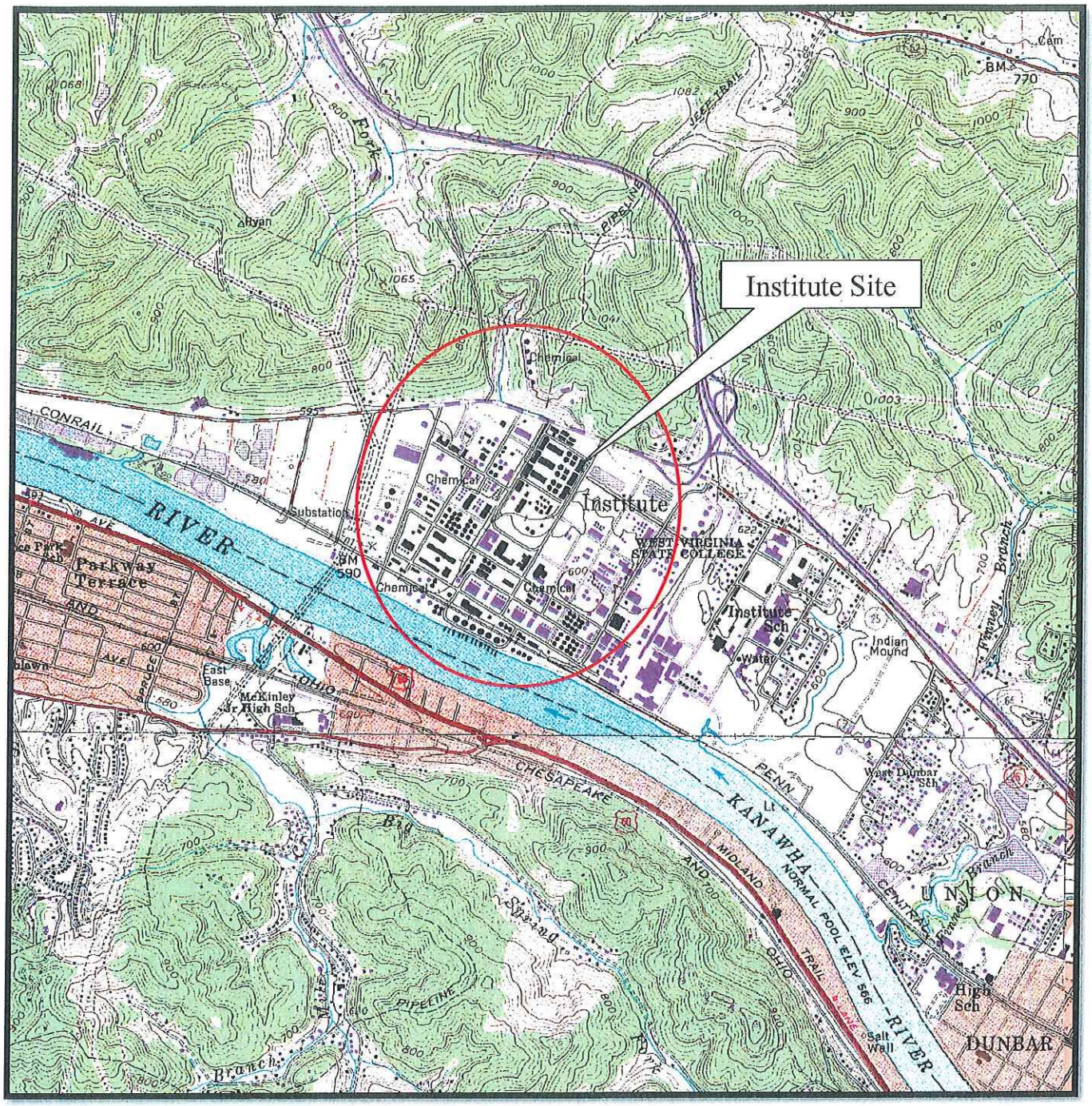
Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

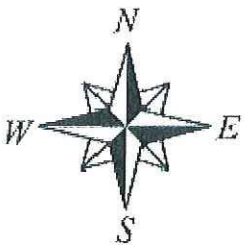
TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them. CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

atL006 v.4
L0547580544

ATTACHMENT B

MAP





Attachment A
Area Map

USGS 7.5 Minute Series Topographic Map
St. Albans and Alum Creek,
W.Va. Quadrangles

ATTACHMENT C

INSTALLATION & STARTUP SCHEDULE

ATTACHMENT D

REGULATORY DISCUSSION

REGULATORY DISCUSSION

This Class II Administrative Update will comply with all applicable state and federal regulations as listed in DEP's Engineering Evaluation for the R13-311B application.

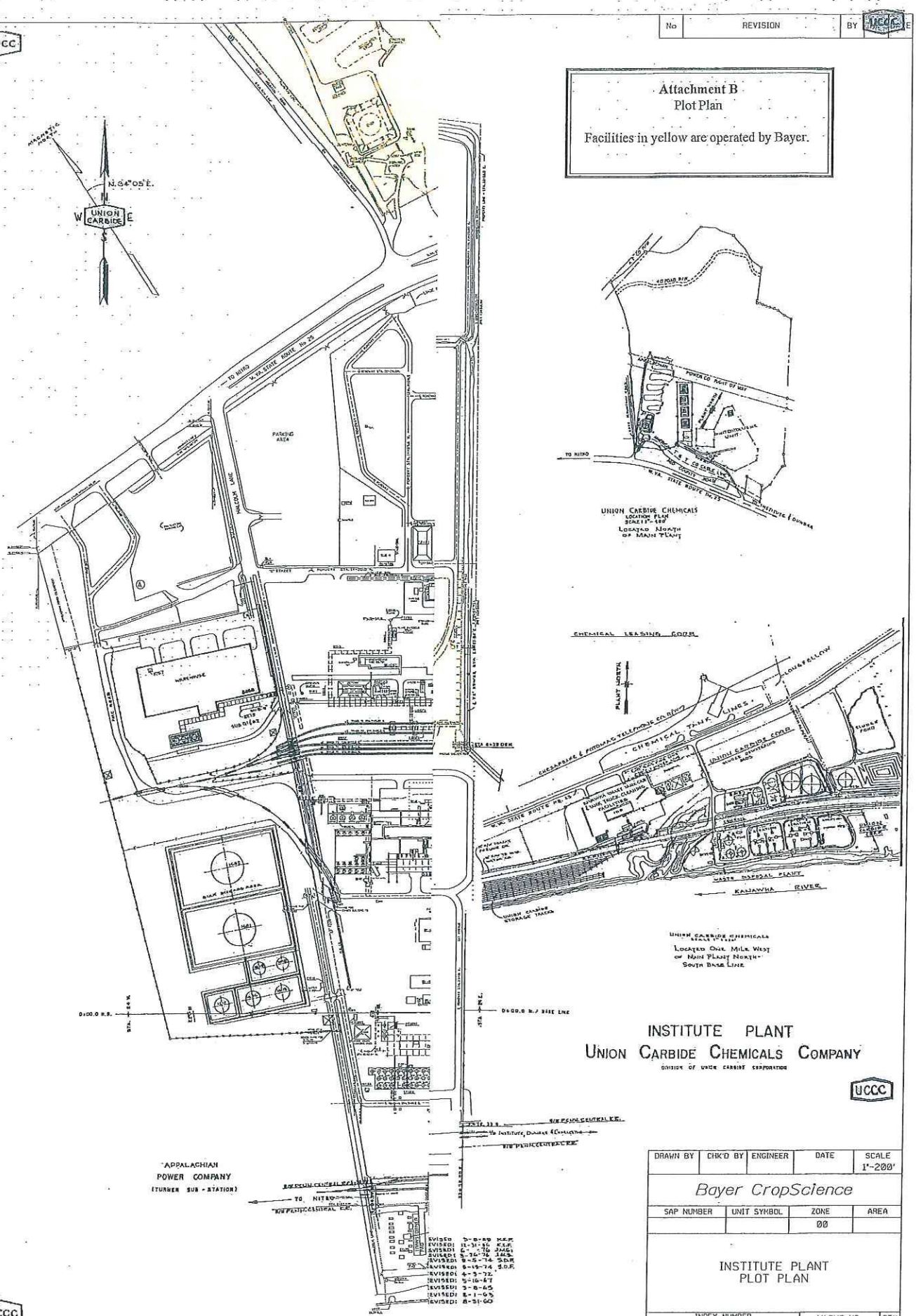
ATTACHMENT E

PLOT PLAN

No	REVISION	BY	DATE

Attachment B
Plot Plan

Facilities in yellow are operated by Bayer.



INSTITUTE PLANT
UNION CARBIDE CHEMICALS COMPANY
DIVISION OF UNION CARBIDE CORPORATION

UCCC

DRAWN BY	CHK'D BY	ENGINEER	DATE	SCALE
				1"=200'

Bayer CropScience

SAP NUMBER	UNIT SYMBOL	ZONE	AREA
		00	

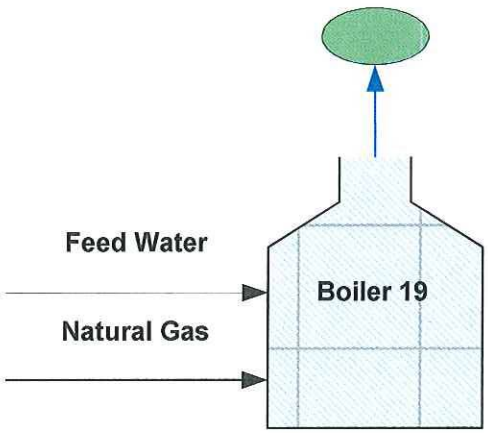
INSTITUTE PLANT
PLOT PLAN

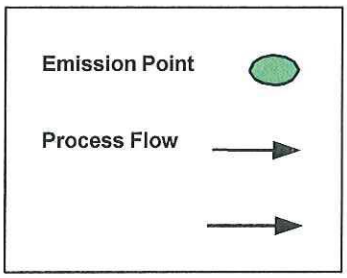
INDEX NUMBER			(4) DWG. NO.	REV
LOCATION	SITE	SUBJECT		
512	GS-00	0.11	200200	12

ATTACHMENT F

DETAILED PROCESS FLOW DIAGRAM

Process Flow Diagram





ATTACHMENT G

PROCESS DESCRIPTION

PROCESS DESCRIPTION

Bayer will be installing one 106 mmBtu natural gas fired boiler. The boiler will be fueled by pipeline natural gas. The maximum design heat input of the boiler is approximately 106 mmBtu/hr. This boiler will provide backup steam to the header while B016 and B017 are being repaired or replaced-in-kind.

This project coincides with Union Carbide's installation of three temporary natural gas boilers while B016 and B017 are being repaired or replaced-in-kind.

ATTACHMENT H

SAFETY DATA SHEET

ATTACHMENT I

EMISSION UNIT TABLE

Attachment I

Emission Units Table

(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
B019	B019	Industrial Boiler (106 mmBtu/hr)	2016	106	New	NA

[1] For Emission Units (or Sources) use the following numbering system:1S, 2S, 3S,... or other appropriate designation.
[2] For Emission Points use the following numbering system:1E, 2E, 3E, ... or other appropriate designation.
[3] New, modification, removal
[4] For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

ATTACHMENT J

EMISSION POINTS DATA SUMMARY SHEET

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions [4]		Maximum Potential Controlled Emissions [5]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used [6]	Emission Concentration [7] (ppmv or mg/m^4)
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
B019	Upward Vertical Stack	B019				C	8,760	Carbon Monoxide			3.91	17.13	Gas	EE	
								Nitrogen Oxide			3.85	16.87	Gas	EE	
								Total PM			0.04	0.20	Solid/Vapor	EE	
								PM-10			0.05	0.24	Solid/Vapor	EE	
								PM-2.5			0.04	0.20	Solid/Vapor	EE	
								Sulfur Dioxide			0.06	0.27	Gas	EE	
								Volatile Organic Compounds			0.57	2.5	Gas	EE	
								Hazardous Air Pollutants			0.55	2.43	Gas	EE	
								CO2e			12,412	54366	Gas	EE	

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

[1] Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

[2] Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

[3] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, all applicable Greenhouse Gases (including CO_2 and methane), etc. **DO NOT LIST** H_2, H_2O, N_2, O_2, and Noble Gases.

[4] Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[5] Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

6 Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

7 Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m^3) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO_2, use units of ppmv (See 45CSR10).

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 2: Release Parameter Data

Emission Point ID No. *(Must match Emission Units Table)*	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (°F)	Volumetric Flow [1] (acfm) *at operating conditions*	Velocity (fps)	Ground Level *(Height above mean sea level)*	Stack Height [2] *(Release height of emissions above ground level)*	Northing	Easting

[1] Give at operating conditions. Include inerts.
[2] Release height of emissions above ground level.

ATTACHMENT K

FUGITIVE EMISSIONS DATA SHEET

Attachment K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS
1.) Will there be haul road activities? ☐ Yes ☒ No ☐ If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET.
2.) Will there be Storage Piles? ☐ Yes ☒ No ☐ If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.
3.) Will there be Liquid Loading/Unloading Operations? ☐ Yes ☒ No ☐ If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.
4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)? ☐ Yes ☒ No ☐ If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.
6.) Will there be General Clean-up VOC Operations? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
7.) Will there be any other activities that generate fugitive emissions? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.
If you answered "NO" to all of the items above, it is not necessary to complete the following table, "Fugitive Emissions Summary."

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants - Chemical Name/CAS [1]	Maximum Potential Uncontrolled Emissions [2]		Maximum Potential Controlled Emissions [3]		Est. Method Used [4]
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads						
Unpaved Haul Roads						
Storage Pile Emissions						
Loading/Unloading Operations						
Wastewater Treatment Evaporation & Operations						
Equipment Leaks		Does not apply		Does not apply		
General Clean-up VOC Emissions						
Other						

[1] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, all applicable Greenhouse Gases (including CO_2 and methane), etc. DO NOT LIST H_2, H_2O, N_2, O_2, and Noble Gases.

[2] Give rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[3] Give rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[4] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

ATTACHMENT L

EMISSIONS UNIT DATA SHEET

Attachment L
Emission Unit Data Sheet
(INDIRECT HEAT EXCHANGER)

Control Device ID No. (must match List Form):

Equipment Information

1. Manufacturer: Indeck Power Equipment Company	2. Model No. 75K-OT-SR1 Serial No.
3. Number of units: 1	4. Use Steam Production
5. Rated Boiler Horsepower: hp	6. Boiler Serial No.:
7. Date constructed: 2015	8. Date of last modification and explain: NA
9. Maximum design heat input per unit: 106 ×10⁶ BTU/hr	10. Peak heat input per unit: 106 ×10⁶ BTU/hr
11. Steam produced at maximum design output: 72,000 LB/hr 600 psig	12. Projected Operating Schedule: Hours/Day 24 Days/Week 7 Weeks/Year 52
13. Type of firing equipment to be used: ☐ Pulverized coal ☐ Spreader stoker ☐ Oil burners ☒ Natural Gas Burner ☐ Others, specify	14. Proposed type of burners and orientation: ☐ Vertical ☒ Front Wall ☐ Opposed ☐ Tangential ☐ Others, specify
15. Type of draft: ☒ Forced ☐ Induced	16. Percent of ash retained in furnace: NA %
17. Will flyash be reinjected? ☐ Yes ☒ No	18. Percent of carbon in flyash: NA %

Stack or Vent Data

19. Inside diameter or dimensions: 4.25 ft.	20. Gas exit temperature: 312 °F
21. Height: 16 ft.	22. Stack serves: ☒ This equipment only ☐ Other equipment also (submit type and rating of all other equipment exhausted through this stack or vent)
23. Gas flow rate: ft³/min	
24. Estimated percent of moisture: 10.42 %	

Fuel Requirements

25. Type	Fuel Oil No.	Natural Gas	Gas (other, specify)	Coal, Type:	Other:
Quantity (at Design Output)	gph@60°F	86,934 ft^3/hr	ft^3/hr	TPH	
Annually	$\times 10^3$ gal	7.62 $\times 10^6$ ft^3/hr	$\times 10^6$ ft^3/hr	tons	
Sulfur	Maximum: wt. % Average: wt. %	gr/100 ft^3	gr/100 ft^3	Maximum: wt. %	
Ash (%)		None		Maximum	
BTU Content	BTU/Gal. Lbs/Gal.@60°F	950 -1250 BTU/ft^3	BTU/ft^3	BTU/lb	
Source		Cabot Tennesse Gas			
Supplier		Cabot			
Halogens (Yes/No)		No			
List and Identify Metals		NA			

26. Gas burner mode of control:
☐ Manual ☐ Automatic hi-low
☒ Automatic full modulation ☐ Automatic on-off

27. Gas burner manufacture: Indeck

28. Oil burner manufacture:

29. If fuel oil is used, how is it atomized? ☐ Oil Pressure ☐ Steam Pressure ☐ Compressed Air ☐ Rotary Cup ☐ Other, specify

30. Fuel oil preheated: ☐ Yes ☐ No

31. If yes, indicate temperature: °F

32. Specify the calculated theoretical air requirements for combustion of the fuel or mixture of fuels described above actual cubic feet (ACF) per unit of fuel:
@ °F, PSIA, % moisture

33. Emission rate at rated capacity: lb/hr

34. Percent excess air actually required for combustion of the fuel described: %

Coal Characteristics

35. Seams:

36. Proximate analysis (dry basis): % of Fixed Carbon: % of Sulfur: % of Moisture: % of Volatile Matter: % of Ash:

Emissions Stream

37. What quantities of pollutants will be emitted from the boiler before controls?

Pollutant	Pounds per Hour lb/hr	grain/ACF	@ °F	PSIA
CO	3.9			
Hydrocarbons				
NO_x	3.9			
Pb				
PM_{10}	0.05			
SO_2	0.06			
VOCs	0.57			
Other (specify)				

38. What quantities of pollutants will be emitted from the boiler after controls?

Pollutant	Pounds per Hour lb/hr	grain/ACF	@ °F	PSIA
CO	3.9			
Hydrocarbons				
NO_x	3.9			
Pb				
PM_{10}	0.05			
SO_2	0.06			
VOCs	0.57			
Other (specify)				

39. How will waste material from the process and control equipment be disposed of?
No waste material generated from combustion.

40. Have you completed an *Air Pollution Control Device Sheet(s)* for the control(s) used on this Emission Unit. No

41. Have you included the ***air pollution rates*** on the Emissions Points Data Summary Sheet? No

42. **Proposed Monitoring, Recordkeeping, Reporting, and Testing**
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING PLAN: Please list (1) describe the process parameters and how they were chosen (2) the ranges and how they were established for monitoring to demonstrate compliance with the operation of this process equipment operation or air pollution control device.

TESTING PLAN: Please describe any proposed emissions testing for this process equipment or air pollution control device.

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.

REPORTING: Please describe the proposed frequency of reporting of the recordkeeping.

43. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.

INDECK KEYSTONE ENERGY, LLC 11/09/16 14:21+

PROPOSAL NO. qu24056
BOILER DESCRIPTION: OT-75-SR1

PREDICTED OPERATING PERFORMANCE DATA

Fuel(s) Fired Per Load.....	Nat.Gas	Nat.Gas	Nat.Gas	Nat.Gas
Steam Output.....lbs/hr	71757.	53736.	35712.	17824.
Steam Temp @ SH. NRV Outlet.Deg.F	732.	744.	753.	711.
Press. at SH. NRV Outlet.....PSIG	600.	600.	600.	600.
Percent Blowdown.....%	1.00	1.00	1.00	1.00
Feedwater Flow.....lbs/hr	72482.	54279.	36073.	18004.
Excess Air Lvg. System,				
Nat.Gas .....%	15.00	15.00	15.00	45.00
Final O2 in Flue Gas,(dry vol)..%	2.98	2.98	2.98	6.96
Flue Gas Recirculation.....%	15.00	15.00	15.00	15.00
Temperature of FGR.....Deg.F	312.	290.	270.	259.
Gas Temp. Leaving Furnace...Deg.F	2249.	2137.	1962.	1494.
Gas Temp. Leaving Boiler....Deg.F	640.	589.	541.	504.
Gas Temp Leaving Economizer.Deg.F	312.	290.	270.	259.
Final Flue Gas Temp Leaving.Deg.F	312.	290.	270.	259.
Ambient Air Temperature.....Deg.F	80.	80.	80.	80.
Relative Humidity.....%	60.00	60.00	60.00	60.00
Feedwater Temp System Inlet.Deg.F	240.	240.	240.	240.
Water Temp. Leaving Econ....Deg.F	364.	353.	342.	353.
Flue Gas Flow Lvg. System..lbs/hr	88472.	66374.	44236.	27607.
Combustion Air Required....lbs/hr	84168.	63145.	42084.	26531.
Furnace Heat Release.BTU/cu.ft-hr	86934.	65221.	43467.	21734.
Heat Losses (Based on HHV)				
Dry Gas.....%	4.37	3.95	3.57	4.31
Hydrogen and Moisture in Fuel.%	10.42	10.32	10.23	10.19
Moisture in Air.....%	0.13	0.11	0.10	0.12
Unburned Combustible.....%	0.00	0.00	0.00	0.00
Radiation.....%	0.55	0.73	1.09	2.23
Manufacturer's Margin.....%	1.00	1.00	1.00	1.00
Total Heat Loss.....%	16.46	16.11	15.99	17.85
Predicted Efficiency.....%	83.54	83.89	84.01	82.15
Fuel Flow-Nat.Gas .....lbs/hr	4304.	3229.	2152.	1076.
Heat Input.....MBTU/hr	99.8872	74.9386	49.9436	24.9718
Heat Output.....MBTU/hr	83.4489	62.8686	41.9574	20.5142

INDECK KEYSTONE ENERGY, LLC 11/09/16 14:21

FUEL ANALYSIS

DESCRIPTION: Nat.Gas

Fuel Classification: Natural gas or similar
Fuel Type: gaseous
Air Infiltration,(%) 0.000

CONSTITUENTS	Percent by Volume	Percent by Weight
Hydrogen, H2	64.8073	23.4900
Oxygen, O2	0.0330	0.1900
Nitrogen, N2	0.1390	0.7000
Carbon, C	35.0207	75.6200
TOTAL	100.0000	100.0000

Fuel High Heating Value Btu/Lb 23208.00

THE PRECEEDING PREDICTED PERFORMANCE IS VALID WHEN THE AS FIRED FUEL ANALYSIS CORRESPONDS WITH THAT OF THE FUEL ANALYSIS HEREBY INDICATED, ON WHICH THE COMBUSTION CALCULATIONS ARE BASED. FUELS WHICH VARY FROM THE CHARACTERISTICS OF THE INDICATED FUEL WILL ALTER PERFORMANCE CONDITIONS.

kpsc4.3.15 kb.qu24056.tsp.ot-75s_0

PREDICTED PERFORMANCE

STACK EMISSIONS
with 15%
FGR
corrected
to 3% O_2
Dry

UNIT NO.	**#119412**
BOILER MFG / MODEL	**INDECK / 75K-OT-SH**
BURNER MFG / MODEL	**FABER/WB-1-32-IFGR**
FUEL INPUT (NAT GAS)	**106.0 mmbtu/hr, HHV 1,000 Btu/cu.ft. assumed**
STEAM FLOW, max intermittent	**75,000 PPH with economizer**

FUEL - NATURAL GAS, *subject to fuel analysis*

COMPONENT	PPM	#/MMBTU
CO	50	0.0365
NOx	30	0.0360
SOx	n/a	n/a
VOC as CH4	10	0.004
Particulates	n/a	0.01

ATTACHMENT M

AIR POLLUTION CONTROL DEVICE SHEET

ATTACHMENT N

SUPPORTING EMISSION CALCULATIONS

Attachment N
Emission Summary

Attachment N

NOV 2016 Bayer Air Permit Admistrative Update - Emission Calculations

	Boiler 19 Calculations Summary											
Pollutant	Emission Factor	Emission Factor Units	AP-42 Heat Value of Natural Gas (Btu/scf)	Emission Factor Units (lb./mm Btu)	Heat Input Boiler Rating (mmBtu/ hr.)	Babcock & Wilcox EPA Fuel Type F-d Default Value	Ideal Gas Law Constant 10^6 moles per DSCF	O_2 Diff.	MW	Estimated Annual Operating Hours	Max. Hourly Emission (pph) Boiler #19	Max. Annual Emissions (tpy) Boiler #19
CO	50.000	ppm	1,020	0.05	106	8710	2.59E-09	20.9	28.01	8,760	3.9102	17.13
CO_2E	117.098	lb/10^6 scf	1,020	0.12	106					8,760	12,412.39	54,366.26
HAP - Benzene	0.002	lb/10^6 scf	1,020	0.000002	106					8,760	0.0002	0.00
HAP - Formaldehyde	0.075	lb/10^6 scf	1,020	0.000	106					8,760	0.0078	0.03
HAP - Hexane	1.800	lb/10^6 scf	1,020	0.002	106					8,760	0.1871	0.82
HAP - Toluene	0.003	lb/10^6 scf	1,020	0.000003	106					8,760	0.3604	1.58
HAP - Total	1.881	lb/10^6 scf									0.5555	2.43
NOx	30.000	ppm	1,020	0.03	106	8710	2.59E-09	20.9	46.01	8,760	3.8538	16.8797
PM (con & fil)	0.430	lb/10^6 scf	1,020	0.00	106						0.0447	0.1957
PM_{10} (con & fil)	0.520	lb/10^6 scf	1,020	0.001	106					8,760	0.0540	0.2367
$PM_{2.5}$ (con & fil)	0.430	lb/10^6 scf	1,020	0.000	106						0.0447	0.1957
SO_2	0.600	lb/10^6 scf	1,020	0.001	106					8,760	0.0624	0.2731
VOC - Total	5.500	lb/10^6 scf	1,020	0.006	106					8,760	0.5716	2.5035

Notes:	1	AP-42, Chapter 1.4 references are from the July 1998 revision.
	2	Max. Annual Emissions based upon Max. Hourly Emissions @ 8760 hr./yr.
	3	Boiler is equipped with low NOx burners
	4	Heating value of 1,020 Btu/scf based on AP-42 conversion factor and not necessarily representative of Bayer's purchased natural gas.
	DSCF	Dry Standard Cubic Feet
Example Equations:		Max. Hourly Emission Rate **(lb./hr.) = Emission Factor (lb./10^6 scf) ÷ Heating Value of Natural Gas** (Btu/scf) x Boiler Rating **(mmBtu/hr.)**

NETTING ANALYSIS	SLEIS		TONS								
	YEAR	REPORTING YEAR	PM-FIL	PM-CON	PM-FIL 10	PM-FIL 2.5	NOx	SOx	CO	VOC	CO2
ANNUAL AIR EMISSION INVENTORY	2007	Year 1	57.50	149.10	13.20	3.50	2039.00	3234.00	47.00	6.00	488,187
	2008	Year 2	53.30	132.20	12.30	3.20	1975.00	2914.00	59.00	6.00	481,989
	2009	Year 3	32.40	93.80	7.40	1.90	1718.00	2214.00	55.00	6.00	421,592
	2010	Year 4	34.40	93.30	7.90	2.10	1767.00	2251.00	50.00	5.00	429,492
	2011	Year 5	29.90	91.70	6.90	1.80	1549.00	2093.00	52.00	5.00	381,987
	2012	Year 6	20.93	83.00	5.45	1.15	1228.88	1731.20	68.07	5.80	323,247
	2013	Year 7	29.70	72.10	20.20	9.10	1072.20	1544.10	84.30	5.40	247,615
	2014	Year 8	34.94	57.07	23.45	10.50	1103.93	1295.04	110.70	6.93	222,387
	2015	Year 9	31.25	51.65	21.13	9.45	920.92	1176.03	64.13	4.50	203,464
	2016	Year 10									
CONTEMPORANEOUS PERIOD	2007/2008	Period 1	55.40	140.65	12.75	3.35	2007.00	3074.00	53.00	6.00	485,088
	2008/2009	Period 2	42.85	113.00	9.85	2.55	1846.50	2564.00	57.00	6.00	451,790
	2009/2010	Period 3	33.40	93.55	7.65	2.00	1742.50	2232.50	52.50	5.50	425,542
	2010/2011	Period 4	32.15	92.50	7.40	1.95	1658.00	2172.00	51.00	5.00	405,740
	2011/2012	Period 5	25.42	87.35	6.18	1.47	1388.94	1912.10	60.04	5.40	352,617
	2012/2013	Period 6	25.32	77.55	12.83	5.12	1150.54	1637.65	76.19	5.60	285,431
	2013/2014	Period 7	32.32	64.59	21.83	9.80	1088.07	1419.57	97.50	6.17	235,001
	2014/2015	Period 8	33.10	54.36	22.29	9.98	1012.43	1235.54	87.42	5.72	212,926
	2015/2016	Period 9									

Bayer
Institute, WV

Reg 13 Permit Modification - Indirect Heat Exchangers
BOILER 19 NETTING EVALUATION

EMISSION POINTS			TONS										
YEAR	SLEIS Number	SLEIS DESCRIPTION	PM-FIL	PM-CON	PM-FIL 10	PM-FIL 2.5	NOx	SOx	CO	VOC	CO2	CH4	N2O
2013	070 480	480 No. 10 Boiler - Gas	0.00	0.00	0.00	0.00	49.40	0.00	14.80	0.97	-	0.41	0.00
	071 480	480 No. 10 Boiler - Coal	8.67	20.96	5.85	2.60	284.00	454.00	6.46	0.78	67,991.0	0.52	0.39
	080 480	480 No. 11 Boiler - Gas	0.00	0.00	0.00	0.00	48.60	0.00	14.60	0.95	-	0.40	0.00
	081 480	480 No. 11 Boiler - Coal	8.52	20.60	5.75	2.55	279.00	446.00	6.85	0.76	66,817.0	0.51	0.38
	090 480	480 No. 12 Boiler - Gas	0.00	0.00	0.00	0.00	1.38	0.00	21.00	0.08	-	0.58	0.00
	091 480	480 No. 12 Boiler - Coal	12.29	29.74	8.30	3.69	403.00	644.00	9.16	1.10	96,457.0	0.73	0.55
	NGB	NGB Natural Gas Boilers	0.26	0.78	0.26	0.26	6.81	0.08	11.45	0.75	16,350.0	0.31	0.09
2013	TOTAL	TOTALS	29.7	72.1	20.2	9.1	1072.2	1544.1	84.3	5.4	247,615.0	3.5	1.4
2014	070 480	480 No. 10 Boiler - Gas	0.0	0.0	0.0	0.0	111.4	0.0	33.4	2.2	-	0.9	
	071 480	480 No. 10 Boiler - Coal	13.7	22.6	9.2	4.1	354.0	513.0	8.0	1.0	84,585.0	0.6	0.5
	080 480	480 No. 11 Boiler - Gas	0.0	0.0	0.0	0.0	93.4	0.0	28.0	1.8	-	0.8	0.0
	081 480	480 No. 11 Boiler - Coal	11.47	18.93	7.74	3.44	297.00	430.00	6.74	0.81	70,984.0	0.00	0.40
	090 480	480 No. 12 Boiler - Gas	0.00	0.00	0.00	0.00	1.50	0.00	22.90	0.07	-	0.63	0.00
	091 480	480 No. 12 Boiler - Coal	9.39	15.50	6.34	2.82	243.00	352.00	5.52	0.66	58,105.0	0.44	0.33
	NGB	NGB Natural Gas Boilers	0.41	0.05	0.14	0.14	3.63	0.04	6.10	0.40	8,713.0	0.17	3.63
2014	TOTALS	TOTALS	34.94	57.04	23.45	10.50	1103.93	1295.04	110.70	6.93	222,387.0	3.56	4.84
2015	070 480	480 No. 10 Boiler - Gas	0.00	0.00	0.00	0.00	56.10	0.00	16.80	1.10	81,244.0	0.46	0.00
	071 480	480 No. 10 Boiler - Coal	12.86	21.20	8.68	3.86	340.00	486.00	7.72	0.93	-	0.62	0.46
	080 480	480 No. 11 Boiler - Gas	0.00	0.00	0.00	0.00	39.20	0.00	11.70	0.77	-	0.32	
	081 480	480 No. 11 Boiler - Coal	8.98	14.80	6.06	2.69	237.00	339.00	5.39	0.65	56,719.0	0.43	0.32
	090 480	480 No. 12 Boiler - Gas	0.00	0.00	0.00	0.00	0.80	0.00	12.20	0.07	-	0.33	0.00
	091 480	480 No. 12 Boiler - Coal	9.30	15.33	6.28	2.79	245.00	351.00	5.58	0.67	58,734.0	0.45	0.33
	NGB	NGB Natural Gas Boilers	0.11	0.32	0.11	0.11	2.82	0.03	4.74	0.31	6,767.0	0.13	0.04
2015	TOTALS	TOTALS	31.25	51.65	21.13	9.45	920.92	1176.03	64.13	4.50	203,464.0	2.74	1.15

2013/2014	2-Year Average	32	65	22	10	1,088	1,420	98	6	235,001	4	3
2014/2015	2-Year Average	33	54	22	10	1,012	1,236	87	6	212,926	3	3

L Tennant Working Document
10-13-2016

Bayer
Institute, WV

Reg 13 Permit Modification - Indirect Heat Exchangers
Netting Evaluation

PROCESS NAME	SLEIS EMISSION UNIT IDENTIFICATION	DATE OF SHUTDOWN	2-YEAR AVERAGE BASELINE	CO	NOX	TOTAL PM	PM-10	PM-2.5
NEW NETTING EVALUATION FOR INSTALLATION OF BOILER 19								
PTE for Boiler 19	Not Listed		New	17.16	16.9	0.2365	0.2365	0.1957
PTE Boilers 16,17,18	Not Listed		New	157.2	166.8	23.01	23.01	23.01
Shutting Down Powerhouse #2	030;031;061; 070; 071; 080; 081; 090; 091		2013/2014	94.46	1088	147.58	86.27	41.545
Net Change in Emissions				79.9	-904.3	-124.3335	-63.0235	-18.3393
PSD Significance Levels				100	40	25	15	10
Does the project result in a Net Significant Increase in Emissions				NO	NO	NO	NO	NO

PREDICTED PERFORMANCE

STACK EMISSIONS
with 15%
FGR
corrected
to 3% O_2
Dry

UNIT NO.	**#119412**
BOILER MFG / MODEL	**INDECK / 75K-OT-SH**
BURNER MFG / MODEL	**FABER/WB-1-32-IFGR**
FUEL INPUT (NAT GAS)	**106.0 mmbtu/hr, HHV 1,000 Btu/cu.ft. assumed**
STEAM FLOW, max intermittent	**75,000 PPH with economizer**

FUEL - NATURAL GAS, *subject to fuel analysis*

COMPONENT	PPM	#/MMBTU
CO	50	0.0365
NOx	30	0.0360
SOx	n/a	n/a
VOC as CH4	10	0.004
Particulates	n/a	0.01

ATTACHMENT O

MONITORING, RECORDKEEPING, REPORTING & TESTING PLANS

ATTACHMENT P

PUBLIC NOTICE

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INVOICE NBR	016137001

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INVOICE NBR	016137001

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ISSUE DATE	AD TYPE	PUB	DESCRIPTION REFERENCE NBR PURCHASE ORDER #	AD NUMBER	AD SIZE TOTAL RUN	RATE	GROSS AMOUNT	NET AMOUNT
11/04	LEG	GZ	Aair Quality Permit 016137001	0643823	1X0575 5.75	9.10	52.33	52.33
			TOTAL INVOICE AMOUNT					52.33

State of West Virginia, **AFFIDAVIT OF PUBLICATION**

I, Michelle Barker

CHARLESTON GAZETTE MAIL,

do solemnly swear that the legal notice of:
Aair Quality Permit

was duly published in said newspaper(s) at the stated price for the respective newspaper(s) and during the dates listed below: 11/04/16-11/04/16

Subscribed and sworn to before me this 8 day of November.

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
SARAH J WITHROW
120 LITHA LANE
SOUTH CHARLESTON, WV 25309
My commission expires October 24, 2023

Notary Public of Kanawha County, West Virginia

AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is given that Bayer CropScience LP has applied to the West Virginia Department of Environmental Protection, Division of Air Quality for a permit modification to install a natural gas boiler located on State Route 25 Institute West Virginia in Kanawha County. The latitude and longitude coordinates are: 38.38 and -81.77.

The applicant estimates the increased potential to discharge for the following Regulated Air Pollutants in tons per year will be: Carbon Monoxide 17.60; Nitrogen Oxides 16.90; Particulate Matter 0.24; Particulate Matter less than 10 microns 0.24; Particulate Matter less than 2.5 microns 0.20; Sulfur Dioxide 0.27; Volatile Organic Compounds 2.5 and Miscellaneous organic hazardous air pollutants that include formaldehyde, hexane 0.03.

Startup of operation is planned to begin on or about the 5th day of December, 2016. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1214, during normal business hours.

Dated this 1st the day of November, 2016.

By:
Bayer CropScience LP
Connie Stewart
Head of Institute Site
P.O. Box 1005
Institute, WV 25112-1005
(643823)

AIR QUALITY PERMIT NOTICE
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Dated this the day of **(Month)**, **(Year)**.

By: Bayer CropScience LP
Connie Stewart
Head of Institute Site
P.O. Box 1005
Institute, WV 25112-1005

ATTACHMENT Q

BUSINESS CONFIDENTIALITY CLAIM

ATTACHMENT R

AUTHORITY FORM

Memo: Connie Stewart, Head of Institute Site – Institute-WV

Alternates:

1. Vince McCormick
   QHSE and Utility Manager, Bayer CropScience, Institute Site and

2. Mike Curry
   Larvin Unit Plant Manager, Bayer CropScience, Institute Site

RE: Delegation and Authorization to Sign Environmental, Health and Safety Permits and Reports for Bayer CropScience LP (BCS), replacement of Alternatives Connie Stewart, former Director, QHSE Institute Industrial Park with Vince McCormick, current QHSE and Utilities Manager and replacement of Walter Martin, former Utilities Manager with Mike Curry, Larvin Unit Plant Manager.

In accordance with my authorization and delegation from the Board of Directors of Bayer CropScience Holding Inc., dated June 4, 2010, you and your above named alternates are hereby authorized, as a duly authorized representative, responsible official or manager of the above identified BCS location, to sign Environmental, Health and Safety Permits and Reports (as defined in the reference Resolutions) associated with the Institute Site.

This authorization is effective immediately and continues until rescinded in writing by the BCS General Partner or its delegated BCS LP office. This authorization is automatically rescinded at such time when you no longer qualify as a duly authorized representative, responsible official or manager at the Institute Site. The authorization of November 19, 2013, of your predecessor, Jim Covington and alternate, Walter Martin, is hereby rescinded. The above listed alternates will have the same authority and sign when you are not available.

In signing such Permits and Reports you are responsible for determining that the information contained therein is true, accurate and complete, or as otherwise may be set forth specifically in each Permit and Report.

This authorization may not be further delegated by you.

Please contact me or Michael Schaefer in the BCS Legal Department if you have any questions regarding this delegation.

Patrick Lozon
Vice President
Product Supply North America

August 15, 2016

Patrick Lozon

Crop Science Division

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ATTACHMENT S

TITLE V PERMIT REVISION INFORMATION

APPLICATION FEE